



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,726	05/31/2000	Geoffrey B. Rhoads	60208	4510

23735 7590 07/15/2004

DIGIMARC CORPORATION
19801 SW 72ND AVENUE
SUITE 250
TUALATIN, OR 97062

EXAMINER

MEISLAHN, DOUGLAS J

ART UNIT	PAPER NUMBER
----------	--------------

2137

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/585,726

Applicant(s)

RHOADS, GEOFFREY B.

Examiner

Douglas J. Meislahn

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-14,16,30-32,36,37 and 46-53 is/are allowed.
- 6) ☒ Claim(s) 3, 15, 17-29, 33-35, 38-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed 26 April 2004 that amended claims 1, 3-5, 14, 16, 26, 27, 30, 36, 38, 43-45, 49, and 50.

Response to Arguments

2. Applicant's arguments filed 26 April 2004 have been fully considered but they are not persuasive.
3. Item 4 in applicant's response argues that Powell does not show separate carrier and source signals. Powell uses the same image twice; the first is altered according to the auxiliary signal and then added to the second. These two embodiments of the image read on the carrier and source signals. Also, some claims (44 and 45, at least) that were identical to claim 27 in all but statutory class have not been amended to emphasize the separation between the source and carrier signals. As such, applicant's arguments are moot with respect to those claims.
4. The examiner agrees with applicant's position with respect to claim 1, its dependents, and claims that differ only in their statutory class.
5. With respect to the combination of Powell and Hirschberg, applicant contends that the latter fails to disclose the elements that the office has attributed to it. While applicant is correct in that Hirschberg does not show the analysis of audio information, the rejection only uses Hirschberg to show the use of statistical analysis to derive information and the benefits thereof. Audio information is taught previously.

Art Unit: 2137

6. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Hirschberg teaches that statistical analysis can be used repeatedly on different inputs.

7. The applicant's traversal of the rejection of claims 21-25 is insufficient. However, as applicant has attempted to traverse the official notices, the window for a proper traversal remains open.

8. Items 8 and 9 in applicant's response are based on issues discussed above.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2137

Claim Rejections - 35 USC § 103

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 27, 28, 33-35, 44, and 45 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Powell et al. (5721788).

Powell et al. present a signature that is embedded within an image in lines 34-36 of column 2. The image reads on applicant's carrier signal and source signal. The signature is represented as a bit string. The bits from the bit string are represented by percentage adjustments to the pixels, where the percentages are used to insure that the pixels change when adjusted. As such the second clause of the claim is met. As told in the paragraph spanning columns 4 and 5, the pixels are changed according to the percentages, thereby anticipating clause

Art Unit: 2137

c). The change in the pixel value is the processed datum. The signature is redundantly encoded throughout the image, as described in the abstract, which meets the limitations of the final clause. Claim 28 is anticipated because a processed datum is, while based on the source data, a function of the bit value that it represents. Claims 33-35 are anticipated because the signature in Powell et al. is redundantly recorded throughout the image and signature points are chosen based on features of the points other than their proximity to one another.

The examiner believes that the correct interpretation of the percentage change in Powell et al. entails multiplying the coordinates in the image by a multiplication factor, which would combine the second and third clauses of claim 27, which would null an anticipatory rejection. However, the two steps would be obvious from the multiplication. Furthermore, there are those that interpret the percentage change in Powell et al. as involving the creation of the change and then the addition of the change to the pixels. From this standpoint, Powell et al. anticipates claim 27.

13. Claims 3, 15, and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. as applied to claim 29 and further in view of Hirschberg (6003005).

Powell et al. teach a method of embedding redundant signatures in data. Powell et al. do not say that the statistical decoding is a statistical analysis of feature that produces code values. In lines 26-46 of column 7, Hirschberg teaches generating code (a set of decision nodes) based on a statistical analysis of information. Therefore it would have been obvious to a person of ordinary skill

Art Unit: 2137

in the art at the time the invention was made to use Hirschberg's data decoding scheme in Powell et al. in order to derive the data without needing comparison data. Claims 21-25 are rendered obvious because official notice is taken that use of embedded watermarks to protect data in a number of ways, including copyright codes, copy control, and data monitoring/reporting, is old and well-known.

14. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Szepanski ("A Signal Theoretic Method for Creating Forgery-Proof Documents for Automatic Verification").

Powell et al. teach a method of embedding redundant signatures in data. They do not say that the embedded signatures have border continuity. At the end of the introduction, Szepanski proposes a watermark pattern that "must extend over the whole area of the document to provide protection against manipulations" Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for the signatures in Powell et al. to cover the entire document and thus have border continuity. Szepanski has taught that this would protect against manipulations.

15. Claims 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Steynor et al. (4297729).

Powell et al. teach a method of embedding redundant signatures in data. They do not suggest concentrating processed data by filtering a frequency range. In their abstract, Steynor et al. describe imbuing data with a watermark that can prevent use of the data. The watermark is placed in the data using a filter that

Art Unit: 2137

limits the frequency of the data, as seen in lines 27-47 of column 10. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to record Powell et al.'s signature using the techniques described by Steynor et al. in order to control use of the data.

16. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Sahay (4248528).

Powell et al. teach a method of embedding redundant signatures in data. They do not say that the watermark includes a copy control signal. In the paragraph spanning columns 9 and 10, Sahay teaches including a code that instructs a copier to not copy a document that bears the code. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include copy control code in Powell et al.'s signatures in order to control the proliferation of the document. With respect to claim 42, Sahay's code disables recording capability. Claim 43 is rendered obvious because Powell et al. teach including a source's identity in the watermarks, as discussed in lines 45-48 of column 1.

17. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al.

As to claim 29, Powell et al. teach a method of embedding a signature in an image or video (see abstract). They do not say that the method of embedding could also be implemented in audio data. Official notice is taken that it is old and well-known to practice watermarking techniques in audio, in addition to video, data. Therefore it would have been obvious to a person of ordinary skill in the art

Art Unit: 2137

at the time the invention was made implement Powell et al.'s teaching in an audio system.

Allowable Subject Matter

18. Claims 1, 2, 4-14, 16, 30-32, 36, 37, and 46-53 are allowed.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Meislahn whose telephone number is (703) 305-1338. The examiner can normally be reached on between 9 AM and 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703) 308-4789.

Art Unit: 2137

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Douglas J. Meistahn
Examiner
Art Unit 2137

DJM